

REMARKS

Claim 7 has been amended and claim 8 has been added. Claim 7 has been amended to correct grammar errors as well as to include an error correction function, support for which may be found in the specification of the present invention on page 10 lines 12-17. Claim 8 has been added to the application to cover an embodiment of the invention that is detailed on page 10, lines 21-26.

The specification has been replaced to correct numerous grammar errors as well as to clarify some passages.

Claims 1-8 are now pending in this application. It is noted with thanks that Claim 6 is drawn to allowable subject matter.

Claims 1-5 and 7 were rejected under 35 USC 102(e) as being anticipated by Schlachman et al. (United States Patent 6,504,925). The applicant respectfully transgresses this rejection.

Schlachman describes an electronic phone directory system housed inside of a phone enclosure. However, the directory service does not provide for the function of identifying an "area code" (or toll number as it is called in the present invention) based on region information or vis versa. Indeed, Schlachman says that on the power up of his device, a default locality is assumed for all searches. So to obtain the area code of a person in a specific locality, Schlachman forces the user to know a valid and listed phone customer in the region in question. This presents problem when trying to find an area code for an unlisted number or with a infrequently updated phone directory. Schlachman also lacks the means necessary to find a location based solely upon the area code. It may be seen in Figure 8 of Schlachman, a municipality must be declared before the phone number including the area code is entered. This does nothing to further the goal of retrieving location information based upon the area code. With reference to column 13, line 17 through column 16, line 54, which the examiner highlighted in regard to claim 1 of this invention, Step 222 in Figure 19 of Schlachman must be noted. This step, as described in column 15, line 61 to column 16, line 22, says that no information may be displayed until after a full and valid phone number is entered, corresponding to the preset location. Indeed, if the area code is not previously known, this aspect of Schlachman is useless. In short, in

Schlachman, there is no provision for the searching of area codes based solely upon location data or location based solely upon area codes. Therefore, claims 1-5 and 7 are not anticipated by Schlachman (and also would not be obvious over Schlachman).

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041 (Whitham, Curtis & Christofferson).

Respectfully submitted,



Michael E. Whitham

Reg. No. 32,635

Whitham, Curtis and Christofferson, P.C.
11491 Sunset Hills Road, Suite 340
Reston, VA 20190
Tel. (703) 787-9400 or (703) 391-2510
Fax. (703) 787-7557 or (703) 391-9035



LAW OFFICES
WHITHAM, CURTIS & WHITHAM
A PROFESSIONAL CORPORATION
INTELLECTUAL PROPERTY LAW
11800 SUNRISE VALLEY DRIVE, SUITE 900
RESTON, VIRGINIA 20191

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APPLICATION
FOR
UNITED STATES
LETTERS PATENT

Applicants: Hidehiko KAMEYAMA
For: PORTABLE TELEPHONE TERMINAL WITH
TOLL NUMBER RETRIEVAL FUNCTION
Docket No.: DP-462US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
APPLICATION FOR LETTERS PATENT

Title: PORTABLE TELEPHONE TERMINAL WITH TOLL NUMBER
RETRIEVAL FUNCTION

INVENTOR(S): HIDEHIKO KAMEYAMA

PORTABLE TELEPHONE TERMINAL WITH TOLL NUMBER RETRIEVAL FUNCTION

BACKGROUND OF THE INVENTION

The present invention relates to a portable telephone terminal device. More ~~to~~ particularly, this invention relates to a portable telephone terminal device ~~provided with toll number retrieval function.~~

5 Description of the Prior Art

~~Formerly, when an originating subscriber performs a toll call~~
~~originating using a portable telephone, generally, the originating~~
~~subscriber performs dialing of a virtual subscriber's number after a toll~~
~~number of a place where a communication partner exists. For that reason,~~
10 ~~the originating subscriber, even though, knows an exchange code of a~~
~~virtual destination, when a toll number is unknown, the originating~~
~~subscriber obtains a toll number to be performed dialing due to retrieval~~
~~of a telephone directory or a guide service of a toll number.~~
Usualy, when a caller
the caller dials a local number after the
the receiving party
The caller must obtain
diald from

However, ~~there is problems that when the originating subscriber~~
15 ~~performs a toll call originating using a conventional portable telephone,~~
~~time is required for searching a toll number to be performed dialing, and~~
~~that is complicated, and further time and cost are required.~~
caller
for
dial
adds

Further, ~~for instance,~~ Japanese Patent Application Laid-Open No.
HEI 9-172480 discloses "PORTABLE TELEPHONE". ~~A place name~~
20 ~~information which includes principal communication partners' address~~
~~and toll number corresponding thereto, is stored in RAM (Random Access~~
~~Memory). When the user inputs the place name information (for instance~~
~~YOKOHAMA) by using a keyboard in order to perform a toll call~~
~~originating to a certain communication partner, the toll number ("045")~~
25 ~~corresponding to the place name is displayed on the display means such~~
~~as LCD (Liquid Crystal Display Device) and so forth.~~
including
which
With

Moreover, Japanese Patent Application Laid-Open No. HEI 9-

64960 discloses ^a TELEPHONE NUMBER DISPLAY METHOD AND DEVICE in which the telephone number and its related information are stored in the telephone number table of the telephone as data, ^{and} ~~thus~~ the data ^{is} being displayed by the ^{as needed} ~~display in answer to necessity.~~

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SUMMARY OF THE INVENTION

In view of the foregoing, it is an object of the present invention, in order to overcome the above-mentioned problem, to provide a portable telephone terminal with toll number retrieval function in which, in a portable telephone capable of inputting and displaying character, there is a function for retrieving ^{the names} ~~corresponding name~~ of municipalities or toll ^{numbers} ~~number~~ from a telephone number or municipalities inputted beforehand.

According to a first aspect of the present invention, in order to achieve the above-mentioned object, there is provided a portable telephone terminal device which comprises a storage section for storing therein ^{the} name of municipalities and corresponding toll ^{numbers} ~~number~~, a means for retrieving the name of municipalities from the storage section ~~while~~ ^{according to} ~~being taken~~ the toll number inputted from an input means ~~to be a~~ retrieval key, and a means for displaying the name of municipalities which is retrieved.

According to a second aspect of the present invention, ~~in the first~~ aspect, there is provided a portable telephone terminal device, which further comprises, a means for retrieving a toll number from the storage section, ^{according to the} ~~while being taken a~~ name of municipalities inputted from the input means ~~to be a~~ retrieval key, and a means for displaying the toll number which is retrieved.

According to a third aspect of the present invention, there is provided a portable telephone terminal device which comprises a state discrimination means for discriminating whether ~~an~~ information inputted from an input means is a toll number or a name of municipalities, a

storage means for storing data of name of municipalities and toll number, a retrieval means, when the toll number is inputted from the input means, ~~retrieves corresponding name of municipalities to the toll number from the storage section, while when the name of municipalities is inputted from the input means, the retrieval means retrieves corresponding toll number to the name of municipalities from the storage section, and a display means for displaying data which is retrieved.~~
 5 ~~for retrieving toll numbers or names of municipalities~~
~~according to the entered data inputted from data input means~~

According to a fourth aspect of the present invention, ~~in the third aspect,~~ there is provided a portable telephone terminal device, wherein it
 10 is selected whether he or she inputs a toll number or ~~a~~ ^{the} name of ~~a municipality~~ municipalities from the input means by the fact that he or she sets the input means to a dialing mode or a character input mode respectively, and the state discrimination means discriminates whether ~~an~~ information
 15 ~~a municipality~~ municipalities while detecting this mode.

According to a fifth aspect of the present invention, ~~in the third aspect,~~ there is provided a portable telephone terminal device, wherein when a predetermined retrieval key is pressed down in the input means, the retrieval means starts retrieval of the storage section with ~~an~~ input
 20 information as a retrieval key, while until the retrieval key is pressed down, there is implemented input and editing of numerals or a character code from the input means.

According to a sixth aspect of the present invention, ~~in the third aspect,~~ there is provided a portable telephone terminal device, wherein
 25 when the retrieval means implements retrieval of ~~a~~ ^{the} name of ~~a municipality~~ municipalities, the retrieval means retrieves name of ~~a municipality~~ ^{a municipality} from telephone number stored in a ^{Call} terminating-history function ~~storing therein~~ ^{containing incoming and outgoing calls and/or from a} telephone number of a call originating side at the time of terminating ~~and/or from~~ telephone number stored in a re-dialing function.

30 According to a seventh aspect of the present invention, there is

provided a storage medium storing therein a program for executing respective ^{steps} processing (a) to (d) by means of a computer of a portable telephone, which comprises the ^{steps} processing of:

- 5 (a) ~~a processing for~~ discriminating whether ~~an~~ information inputted by an input means is a toll number or ^{the} a name of ^{a municipality} municipalities, while detecting mode of the input means which is set either ^{as} a dialing mode or a character input mode in accordance with the fact that a retrieval is performed by either a toll number or ^{the} a name of ^{a municipality} municipalities;
- 10 (b) ~~a processing for~~ retrieving ^{the name of a municipality} data of corresponding name of municipalities to an inputted toll number from a storage section for storing therein data of ^{the} name of ^{a municipality} municipalities and toll ^{numbers} number when there is judged that a toll number is inputted from the input means, at the case where pressing down of predetermined retrieval key by the input means is detected ~~continuously~~ to input of the toll number,
- 15 (c) ~~a processing for~~ retrieving ^{a toll number corresponding} data of corresponding toll number to an inputted name of ^{a municipality} municipalities from a storage section for storing therein data of ~~name~~ of municipalities and toll number when there is judged that a name of municipalities is inputted from the input means, at the case where pressing down of predetermined retrieval key by the input
- 20 means is detected ~~continuously~~ to input of the name of ^{a municipality} municipalities, and
- (d) ~~a processing for~~ controlling so as to display ^{retrieved} to be outputted data which is retrieved to a display system-output device.

25 CONFIGURATION OF ENFORCEMENT OF THE INVENTION

~~There will be described a configuration of enforcement of the present invention.~~ In the desirable configuration of ^{the invention} enforcement of a ~~portable telephone~~, referring to Fig. 1, there is provided with an input means (1), a state discrimination means (2) for discriminating whether ~~an~~ information inputted from the input means (1) is a ~~telephone number~~ (toll

30

the a municipality⁵
number) or a name of municipalities, a storage section (4) for storing data-
of the name of municipalities and the corresponding toll number^{number}, a
retrieval means (3)^{means} for retrieving data^{a municipality} of the corresponding name of
municipalities to the telephone number from the storage section (4) when a
5 telephone number is inputted from the input means (1), while for
retrieving^{the telephone number} corresponding telephone number to the name^{inputted} of municipalities^{a municipality}
from the storage section (4) when name of municipalities is inputted from
the storage section (4), and a display means (5) for displaying data which
is retrieved.

10 In the desirable configuration of the enforcement, when an
information inputted from the input means (1) is the toll number, a
dialing mode is set, while^{when} an information is the name of municipalities^{a municipality}, a
character input mode is set. The state discrimination means (2)
discriminates whether the information inputted from the input means (1)
15 is the toll number or the name of municipalities^{a municipality} while detecting this
mode.

In the desirable configuration of the enforcement, when a
predetermined retrieval key is pressed down in the input means (1), the
retrieval means (3) starts retrieval of the storage section (4) with an input
20 information as a retrieval key, while until the retrieval key is pressed
down, input and editing of numerals and character code from the input
means (1) are implemented.

In the desirable configuration of the enforcement, the retrieval
means (3) implements, at the time of retrieval of the name of
25 municipalities, retrieval of telephone number from a telephone number
stored in terminating history function for storing therein telephone
number of a call^{an incoming call} originating side at the time of the terminating, or from a
telephone number stored in re-dialing function.

30 ^{step} In the desirable configuration of the enforcement, following each
processing (a) to (d) can be realized by a program which is executed in the

processing elements (computer) of the control section (10). The program is stored in a storage medium such as ROM (Read Only Memory), Memory Card and so forth. The content of the storage medium is loaded on a memory such as RAM and so forth, thus being executed on the computer.

5 (a) ~~a processing for~~ discriminating whether an information inputted from the input means is a toll number or ^{the} ~~a~~ name of ^{a municipality} ~~municipalities~~, while detecting ^{the} ~~the~~ mode of the input means (1), which is set either a dialing mode or a character input mode in answer to either a toll number retrieval or a name of municipalities retrieval;

10 (b) ~~a processing for~~ retrieving ^{the} ~~corresponding~~ name of ^{a municipality corresponding} ~~municipalities~~ to the inputted toll number from the storage section (4) storing therein data of the name of ^{a municipality} ~~municipalities~~ and corresponding toll number thereto when ^{it} ~~there~~ is discriminated that the toll number is inputted from the input means (1) since the user inputs the toll number,

15 continuously, the user presses down a predetermined retrieval key;

(c) ~~a processing for~~ retrieving ^{the} ~~corresponding~~ toll number ^{corresponding} ~~to the~~ inputted name of ^{a municipality} ~~municipalities~~ from the storage section (4), storing therein data of the name of ^{a municipality} ~~municipalities~~ and corresponding toll number, thereto when there is discriminated that the name of municipalities is

20 inputted from the input means (1) since the user inputs the name of municipalities, continuously, the presses down a predetermined retrieval key; and

(d) ~~a processing for~~ controlling so as to display ^{on} ~~to be outputted~~ the retrieved data ~~to~~ a display device (5).

25 The above and further objects and novel features of the invention will be more fully understood from the following detailed description when the same is read in connection with the accompanying drawings. It should be expressly understood, however, that the drawings are for purpose of illustration only and are not intended as a definition of the

30 limits of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a view showing a configuration of an embodiment of the present invention; and

Fig. 2 is a flowchart showing a processing flow of the embodiment
5 of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

A preferred embodiment of the present invention will be described
in detail in accordance with the accompanying drawings. Fig. 1 is a view
10 showing a configuration of an embodiment of the present invention. Referring to Fig. 1, a portable telephone terminal with a toll number retrieval function of the present embodiment comprises a key input means 1 for inputting characters and numerals such as telephone ~~number~~^{numbers} and ~~name~~^{names} of municipalities and so forth, a control section 10 for
15 performing retrieval processing and so forth due to program control, and a display system output device 5 displaying data retrieved by the control section 10.

The control section 10 is provided with a state discrimination means 2 for discriminating whether a character string inputted by the
20 key input means 1 is ^atelephone number (toll number) or ~~a~~^{the} name of ^{a municipality} municipalities, a toll number table 4 in which ~~data of the~~^{names} ~~name of~~^{names} ~~municipalities or the toll number~~^{numbers} is stored therein, and a table retrieval means for retrieving data of the ~~name of municipalities or the toll~~^{names municipalities} ~~number~~^{numbers} stored in the toll number table 4.

25 Fig. 2 is a flowchart for explaining a processing flow of the embodiment of the present invention, that is, a view showing flowchart of a program incorporated in the control section 10. There will be described operation of the present embodiment of the invention referring to Figs. 1 and 2.

30 The user of the portable telephone selects whether he retrieves a

toll number or he retrieves a name of municipalities by using the key input means 1. When the user retrieves a toll number, the user inputs the name of ^{a municipality} municipalities of the object (name of place) ~~in order to input the name of municipalities while~~ ^{by} setting a character input mode by the key input means 1 (STEP S1, S2).

When the input of the name of municipalities is completed, the user inputs a retrieval key predetermined beforehand, which is provided for the sake of retrieval at the key input means 1.

In STEP S3, ^{it} ~~there~~ is judged whether or not the retrieval key is pressed down. ^{The presentation} ~~It is capable of being performed~~ ^{beforehand} ~~input of the character and~~ ^{characters} correction thereof by using the key input means 1 until ~~when the retrieval key is pressed down~~ (NO branch of STEP S3).

When ^{it} ~~there~~ is recognized that the retrieval key is pressed down (YES branch of STEP S3), there is implemented retrieval of the toll number (STEP S4).

When corresponding toll number is retrieved (YES branch of STEP S5), there is displayed the toll number retrieved beforehand ^{by} ~~to~~ the display system output device 5 (STEP S6). On the other hand, when the corresponding toll number is not retrieved in the toll number retrieval processing of STEP S4 (NO branch of STEP S5), there is displayed the matter that there is no corresponding data to the display system output device 5 (STEP S7), thus returning to input state of the name of ^{a municipality} ~~municipalities~~, again (STEP S2).

Furthermore, when the user retrieves the name of ^a ~~place~~ place, the user inputs the toll number of the object while setting a dialing input mode by using the key input means 1 in order to input the toll number (STEP S1, S8).

When the input of the toll number is completed, the user inputs the retrieval key predetermined beforehand, which is provided for the key input means 1 for retrieval. In STEP S9, there is judged whether or not

the retrieval key is pressed down. It is capable of being performed input and correction of the toll number until when the retrieval key is pressed down (NO branch of STEP S9).

When there is recognized that the retrieval key is pressed down
 5 (YES branch of STEP S9), the retrieval of the name of municipalities is implemented (STEP S10). The portable telephone terminal with toll number retrieval function is constituted that, at this time, it is capable of retrieving the name of ^{a municipality} ~~municipalities~~ from a telephone number stored in function (terminating history) for storing telephone number of a call
 10 originating side at the time of terminating, or a telephone number stored in redialing function.

When the corresponding name of municipalities is retrieved (YES, branch of STEP S11), there is displayed the whole name of ^{the municipality} ~~municipalities~~ retrieved beforehand to the display system output device 5 (STEP S12).
 15 On the other hand, ^{if} the corresponding name of municipalities is not retrieved (NO branch of STEP S11), there is displayed that there is no corresponding data therein, on the display system output device 5 (STEP S13), thus returning to input state of a toll number again (STEP S8).

Hereinafter, there will be described ^{the} processing of a retrieval of the
 20 toll number (0495) of Kamikawa Machi (Saitama Prefecture) by way of a retrieval of a toll number. The user inputs Kamikawa Machi while setting a character input mode by using the key input means 1 in order to input Kamikawa Machi (STEP S1, S2). The retrieval of the toll number is implemented while pressing down the retrieval key after inputting (STEP
 25 S3, S4). When the toll number (0495) of Kamikawa Machi is retrieved, (0495) is displayed on the display system output device 5 (STEP S5, S6).

On the other hand, when the toll number can not be retrieved caused by an error of character input or the like, displaying on the display output device that there is no corresponding data therein, thus returning
 30 to character input screen again, subsequently, retrieval is implemented

again after correction of character input (STEP S5, S7, S2).

Next, there will be described processing for retrieving corresponding name of municipalities to (0492) by way of retrieval of a name of municipalities. At this case, the user inputs (0492) while setting
 5 mode to dialing input mode by using the key input means 1 in order to input (0492) (STEP S1, S8). There is implemented the retrieval of the name of municipalities while pressing down the retrieval key after dialing input (STEP S9, S10). Then, when the corresponding name of municipalities to (0492) is retrieved, displaying the whole corresponding
 10 names of municipalities on the display system output device 5 (STEP S11, S12).

On the other hand, the corresponding name of municipalities can not be retrieved caused by an error of dialing input or the like, there is displayed on the display system out put device 5 that there is no
 15 corresponding data, thus returning to the dialing input screen again, subsequently, retrieving again after correction of the error (STEP S11, S13, S8).

The portable telephone of the present embodiment is suitable for use in the case where when the user makes a journey and so forth, the
 20 user ^{intends} ~~intend~~ to hear a weather forecast ^{for} ~~of~~ the end ^{destination} ~~of~~ his journey.

There will be described another embodiment of the present invention. ~~From February 1998, a postal code is subdivided in a district level of municipalities.~~ When ^{the} function of postal code discrimination, which is used in a post office, is utilized in the toll number retrieval of the
 25 present invention, it is capable of ~~being possessed~~ of a postal code retrieval function.

As described above, according to the present invention, when a toll number is unknown although the exchange code is known, the user can obtain the toll number immediately, thus there is the effect that
 30 serviceable characteristic of the portable telephone is improved.

Furthermore, according to the present invention, since it is capable of ^{retrieving numbers} ~~being implemented retrieval~~ from a terminating history or a redialing function, the user can retrieve the place where the communication partner ^{performed a} ~~performs call-originating~~ and an area to which
5 the partner makes a telephone call.

While preferred embodiments of the invention have been described using specific terms, such description is for illustrative purpose only, and it is to be understood that changes and variations may be made without departing from the spirit or scope of the following claims.